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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/615,574	07/13/2000	Jeremy Wertheimer	09765-015001	4957

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225 FRANKLIN ST
BOSTON, MA 02110

EXAMINER

ROBINSON BOYCE, AKIBA K

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

SW

Office Action Summary

Application N .		Applicant(s)	
09/615,574		WERTHEIMER ET AL.	
Examiner		Art Unit	
Akiba K Robinson-Boyce		3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Due to the appeal brief filed 12/3/03, the following is a non-final office action. Prosecution has been re-opened. Claims 1-20 are pending in this application and have been examined on the merits. The previous office action has been withdrawn and the following reflects the claims as they appear in the appeal brief.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to a non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of :

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful art" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory

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subject matter. For a process claim, the recited process must somehow apply, involve, use, or advance the technological arts.

In the present case, claim 1 is directed to a system for predicting relative, competitive availability of seating on an airline flight. Claim 1 recites "an availability predictor that predicts seating availability on a competitive flight", "an availability system that produces an actual availability response for a flight", and "decision logic that compares the predicted answer from the availability predictor and the potential answer from the availability system to establish a decision with respect to actual availability". This claim does produce a useful, concrete, and tangible result, however, it is still found to be non-statutory since it discloses decision logic that is not embodied on any tangible medium for processing the steps of the claimed invention. Since no tangible medium or hardware is disclosed for performing the steps of this claim, claim 1, and all claims that depend from it are non-statutory.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5-10, 16, 17 are rejected under 35 U.S.C. 103(a) as being obvious over DeMarcken et al (6,418,413), and further in view of Talluri (6,263,315).

As per claims 1, 17, DeMarcken et al discloses:

An availability predictor that predicts seating availability on a competitive flight/predicting seating availability, (Col.4, lines 62-63, [availability predictor]).

An availability system that produces an actual availability response for a flight/providing an actual availability response, (Col. 5, lines 13-18, [actual availability where both the queries and the results are forwarded and stored]);

DeMarcken et al fails to disclose decision logic that compares the predicted answer from the availability predictor and the potential answer from the availability system to establish a decision with respect to actual availability system to establish a decision with respect to actual availability/comparing the predicted answer.

DeMarcken et al would have included this limitation with the motivation of producing accurate seating availability information.

However, Talluri discloses decision logic that compares the predicted answer from the availability predictor and the potential answer from the availability system to establish a decision with respect to actual availability system to establish a decision with respect to actual availability/comparing the predicted answer in Abstract, lines 1-5, [control logic], with Col. 8, line 58-Col. 9, line 14, [Here, the threshold value is a function of the available capacity for the resource (seats on a flight)/time where the threshold value is compared to the expected net revenue value, and basing an indication that the request for the itinerary for a reservation will be accepted based on the comparison. In this case, the predicted availability is represented by determining if the revenue expected for a particular itinerary for a reservation is acceptable according to acceptable price values (Col. 6, lines 1-4) because in this case, since the

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seat availability is part of the itinerary, the seat availability depends on whether or not the expected revenue for that seat is acceptable. In addition, the actual availability is represented by the threshold value, which is an actual function of available seating capacity on a flight and time.

Talluri discloses the above stated limitation in an analogous art for the purpose of determining if the request for the resource is accepted or not.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include decision logic that compares the predicted answer from the availability predictor and the potential answer from the availability system to establish a decision with respect to actual availability system to establish a decision with respect to actual availability/comparing the predicted answer with the motivation of determining availability in accordance with the acceptance of a request.

As per claim 5, DeMarcken discloses:

Wherein the decision as to an actual availability answer is based on the message from the decision logic, (Col. 8, lines 19-22, [true/false indication]).

As per claim 6, DeMarcken discloses:

Wherein the message from the decision logic can have a plurality of states (Col. 8, lines 29-40, [AVS specific messages]).

As per claim 7, DeMarcken discloses:

Wherein one of the states includes a neutral state that is does not tend to modify the potential answer received from the availability system (Col. 8, lines 62-65, [where this neutral state is represented by .5]).

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As per claim 8, DeMarcken discloses:

Wherein one of states biases a potential answer towards answering that seat is available (Col. 8, lines 64-65, [answering "available"]).

As per claim 9, DeMarcken does not specifically disclose:

Wherein one of states biases a potential answer towards answering that seat is not available. However, biasing the potential answer towards answering that the seat is not available is obvious with DeMarcken since DeMarcken does disclose that the answer is biased towards answering that the seat is available if the result of the predictor is above .5. Therefore, if the result of the predictor were below .5, the answer would obviously be biased towards answering that the seat is not available.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for there to be a state which biases a potential answer towards answering that seat is not available with the motivation of allowing the traveler to determine that he/she will not be able to book a particular seat when traveling.

As per claim 10, DeMarcken discloses:

Wherein state depends upon the relative competitive position of the competitor represented by the availability predictor (Col. 8, lines 58-663, [basing state on if a flight for a specific airline is available]).

As per claim 16, DeMarcken et al discloses:

Wherein the messages that are returned change the availability message from the availability system (Col. 8, lines 17-26, [availability messages returned from predictions and/or answers from the look-up process]).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being obvious over DeMarcken et al (6,418,413), and further in view of Talluri (6,263,315), and further in view of Lynch et al (US Patent 6,018,715).

As per claim 4, neither DeMarcken et al nor Talluri disclose wherein the decision logic determines whether the prediction from the availability predictor indicates that a competitor is in a more favorable or less favorable competitive position than the answer produced by the availability system. However, DeMarcken et al and Talluri would have included the above limitation with the motivation of determining if the available seats on an airline are accommodating to customers.

However Lynch et al 715' discloses:

Wherein the decision logic determines whether the prediction from the availability predictor indicates that a competitor is in a more favorable or less favorable competitive position than the answer produced by the availability system (Col. 7, lines 17-40, where the decision logic is represented as fuzzy logic [representations] in Lynch et al and they determine that Delta Airlines, American Airlines and Continental Airlines [all competitors] have different logic values which are weighted according to preferred plan).

Lynch '715 discloses the above limitation in an analogous art for the purpose of determining if customers prefer the accommodation for the flight.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to determine whether the prediction from the availability predictor

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indicates that a competitor is in a more favorable or less favorable competitive position with the motivation of determining the best travel arrangement according to the traveler's preferences and satisfying the traveler as a customer.

7. Claims 2, 3, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (6,418,413), and further in view of Talluri (6,263,315), and further in view of Lynch et al (US 5,839,114).

As per claims 2, 3, 18 and 19, neither DeMarcken et al nor Talluri disclose wherein the decision of the decision logic is a bias that determines whether the potential answer should be modified based upon the relative competitive position of the competitor represented by the availability predictor/Modifying logic that is responsive to the availability response from the availability system and from the bias from the decision logic to modify the actual availability answer in accordance with the bias from the decision logic to modify the actual availability answer in accordance with the bias/wherein comparing produces a decision that is a bias that determines whether the potential answer should be modified/modifying the actual availability. However, DeMarcken et al and Talluri would have included the above limitation with the motivation of determining if the available seats on an airline are accommodating to customers and if they aren't, making the necessary changes.

However Lynch et al '114 discloses:

Wherein the decision of the decision logic is a bias that determines whether the potential answer should be modified based upon the relative competitive position of the competitor represented by the availability predictor/Modifying logic that is

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responsive to the availability response from the availability system and from the bias from the decision logic to modify the actual availability answer in accordance with the bias from the decision logic to modify the actual availability answer in accordance with the bias/wherein comparing produces a decision that is a bias that determines whether the potential answer should be modified/modifying the actual availability, (Col. 7, line 66-Col. 8, line 26, [update]).

Lynch et al '114 discloses the above limitation in an analogous art for the purpose of having the ability to update information if differences are detected.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to determine whether the potential answer should be modified based upon the relative competitive position of the competitor represented by the availability predictor and to actually modify the actual availability answer with the motivation of providing a fair and balanced travel arrangement through updating and making changes to the travel plan.

8. Claims 11-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (6,418,413), and further in view of Talluri (6,263,315), and further in view of Lynch et al (US 6,119,094).

As per claims 11, 20, neither DeMarcken et al nor Talluri disclose wherein the decision logic determines whether the competitor's available booking codes are at a lower price than those which the availability system indicated the user of the system can offer/determining whether the competitor's available booking codes are at a lower price. However, DeMarcken et al and Talluri would have included the above limitation

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with the motivation of determining if the available seats on an airline are accommodating to customers.

Wherein the decision logic determines whether the competitor's available booking codes are at a lower price than those which the availability system indicated the user of the system can offer/determining whether the competitor's available booking codes are at a lower price, (Col. 3, lines 59-63, [alternate, low-cost travel arrangements]).

Lynch et al discloses the above limitation in an analogous art for the purpose of accommodating the customer at a low-cost travel arrangement.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to determine whether the competitor's available booking codes are at a lower price than those which the availability system indicates the user of the system can offer with the motivation of accessing the travel arrangement that would be cheapest for the customer.

As per claims 12, 13, neither DeMarcken et al nor Talluri disclose wherein if the competitor's available booking codes are not at a lower price, then the system can return a bias towards making the seat unavailable/wherein if the competitor's available booking codes are not at a lower price, then the system can test whether the original query was for a low cost fare and return a bias towards making the seat not available. However, DeMarcken et al and Talluri would have included the above limitation with the motivation of making seats more readily available to customers.

However, Lynch '094 discloses:

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Wherein if the competitor's available booking codes are not at a lower price, then the system can return a bias towards making the seat unavailable/wherein if the competitor's available booking codes are not at a lower price, then the system can test whether the original query was for a low cost fare and return a bias towards making the seat not available (Col. 8, lines 27-32, [identifying within fare class restrictions]).

Lynch '094 discloses the above limitation in an analogous art for the purpose of identifying alternate low-cost travel arrangements.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to return a bias towards making a seat unavailable if the booking codes are not at a lower price with the motivation of not going outside of a price range and subjecting the customer to unnecessary costs.

As per claims 14, 15, neither DeMarcken et al nor Talluri disclose wherein if the competitor's available booking codes are at a lower price than those being offered by the user of the system, the system returns a bias towards making the seat available/wherein if the competitor's available booking codes are at a lower price than those being offered by the user of the system, the system determines whether the query was for a high cost fare, and returns a bias towards making the seat available if for a high cost fare. However, DeMarcken et al and Talluri would have included the above limitation with the motivation of making seats more readily available on an airline.

However, Lynch '094 discloses:

Wherein if the competitor's available booking codes are at a lower price than

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those being offered by the user of the system, the system returns a bias towards making the seat available/wherein if the competitor's available booking codes are at a lower price than those being offered by the user of the system, the system determines whether the query was for a high cost fare, and returns a bias towards making the seat available if for a high cost fare, (Col. 7, line 29-Col. 8, line 17, [for a travel request, identifying travel arrangements falling within each set of parameters and adjusting travel arrangements accordingly])).

Lynch '094 discloses the above limitation in an analogous art with the motivation of adjusting travel arrangements according to a certain set of parameters.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to make seating available if booking codes were at a lower price with the motivation of providing the customer with the best rates for a travel arrangement.

Response to Arguments

6. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akiba K Robinson-Boyce whose telephone number is 703-305-1340. The examiner can normally be reached on Monday-Friday 8:30 am-5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7238 [After final communications, labeled "Box AF"], 703-746-7239 [Official Communications], and 703-746-7150 [Informal/Draft Communications, labeled "PROPOSED" or "DRAFT"].

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



A. R. B.
February 19, 2004



TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600